

# LATROBE VALLEY SUSTAINABILITY GROUP SUBMISSION TO THE DRAFT RESPONSE STATEMENT TO THE CPRS FROM THE LATROBE CITY COUNCIL

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As a general statement, environmental organizations such as ours support a rapid transition to a zero emissions economy, because the Earth's biological structure since humans have walked on the planet has evolved to suit a range of between 200 and 280 ppm carbon dioxide. Today the level of CO<sub>2</sub> in the atmosphere is around 390 ppm and the rate of increase in the near future is expected to rise, even if binding agreements to reduce emissions at Copenhagen are agreed upon. To avoid the more nasty effects of those that have been predicted due to global warming in our lifetimes, we need to actually reduce the level of carbon dioxide in the atmosphere, not just slow the rate of increase.

We realise, that even the most optimistic assessments of when Australia could become a zero emissions economy would be 20 years from now, but in all probability, it is more likely to be 50.

Addressing the points for consideration

- 1.1** The proposed 5% reduction of CO<sub>2</sub> by instituting the CPRS in its present form does not give a positive enough lead to industry to invest in the necessary technologies to move towards zero emissions. BY having a 25% target, investors are given a clear signal about the direction of the economy and will invest accordingly. While, initially this may hurt our local economy, there would be a greater moral imperative for governments to provide a higher level of support in the transitional period.
- 1.2** While this report specifically and rightfully focuses on the Valley, the report needs to have as its background a wider world-view.
- 1.3** Agree with all of this, and reiterate that the Federal Government has seriously erred by not following the initial set of guidelines for the CPRS as proposed by Professor Ross Garnaut. It is our contention that the large fossil fuel companies, most of which are foreign owned, and the Minerals Council of Australia, have had too much influence in the political process at Federal and State Government levels and that this will eventually not be in our national interest.
- 2.1** The LVSG strongly endorses the proactiveness of the Latrobe City Council on this issue. We especially like the idea of bringing stakeholders into the discussion process and that this includes setting up the Climate Change Consultative Committee to sample community feelings on the issue. However, we have noted that at various times in the consultation process, the power companies have tried to exert undue pressure on Council and conduct what amount to scare campaigns within our regional community by saying that the CPRS will see these power generators close down over-night and that jobs will be lost in the Valley as a consequence. Latrobe City Council has handled this situation well, but could have done without these extra pressures, which were really attempts by the power companies to extract more concessions from the Federal Government to compensate for the CPRS.
- 3.1** Agree with the strengths and weaknesses assessment. The issue of house prices compared to other areas may not be as evident now as anecdotal evidence suggests that house prices have gone up quite a

lot just recently. The fact that brown coal produced electricity produces on average 50% more CO<sub>2</sub> per MWh of electricity than for black coal is very significant. It is even more stark when contrasted with gas, where brown coal produces 2 and a half times the CO<sub>2</sub> emissions per MWh

This naturally leads into a discussion of geo-sequestration.

The plusses for this technology are that it will probably work in the Latrobe Valley, because the geology is suitable.

However, there are significant negatives.

1. The projected timeframe of introducing geo-sequestration to the Valley – sometime after 2030, will be way too distant to do any genuine mitigation of greenhouse gases in the time frame that the world has to work with. The disappearance of Arctic sea-ice each summer, and the consequent loss of albedo effect could be a climate change tipping point, where increased warming is induced, with a much faster rise in sea levels than that currently experienced. Faster rising atmospheric temperatures will also lead to a whole range of associated problems. At present rates of warming, the Arctic sea ice may disappear in summer each year, five to 15 years from now.
2. The cost of geo-sequestration schemes will be very large. Billions of dollars will be needed to set up the infrastructure of carbon capture and then sequestering it under the ground. This money would mostly come from tax-payers and we feel would be better spent on renewables.
3. Not all the CO<sub>2</sub> emissions would be captured. Effectively, it is said, that a maximum of 90% could be captured and the reality is likely to be much less than this, because of the law of diminishing returns. Investment money would be better spent on technologies, which guarantee at least 90 % savings of CO<sub>2</sub> emissions including the embedded energy of construction. Including materials and construction costs, wind farms produce 98 % CO<sub>2</sub> free electricity over their lifetimes.
4. The long-term safety of storage of CO<sub>2</sub> is another matter of conjecture. There is no evidence that the CO<sub>2</sub> sequestered will stay in the ground and form carbonate rock as has been suggested by some sources. It is more likely that it will sit as a compressed gas or liquid (because of the pressure) for the entire time it is stored. Future earth movements could release this gas into the atmosphere and cause local asphyxiation initially, and then world-wide rapid increase in atmospheric CO<sub>2</sub> leading to almost instant global warming. Who will pay for the global litigation – the taxpayers of the “guilty” nation most likely. In all likelihood, the state or Federal government will have to assume responsibility for the storage after the private enterprise operation has ceased to exist i.e. taxpayer liability.
5. Carbon dioxide is a type of chemical matter, which sublimates and does not have a liquid phase at standard temperature and pressures. It needs to be pressurised before it becomes a liquid. If it reverts back to a gaseous phase underground and because gases occupy a far greater volume than liquids, the question must be asked. “Will there be enough capacity to store the carbon dioxide as gas in the depleted gas wells of Bass Strait and for how long?” Assuming that 40 to 50 million tonnes of CO<sub>2</sub> needs to be sequestered per year from the Valley, some sources say that the Bass Strait basin has only about 50-60 years worth of storage capacity, providing that the CO<sub>2</sub> remains in the liquid phase.
6. Cost effectiveness. When a certain proportion of the energy produced by a fossil fuelled power station has to be diverted to provide the energy to run a carbon-capture and sequestration operation, then this reduces the profitability of that power station. The parasitic power consumption as the industry refers to it, is about 30%. This means that a power station with 2000 MW capacity can effectively only send about 1400 MW out to the grid. We will NOT support any compensation to fossil fuel fired power stations by the taxpayer for this loss of

profitability. The coal fired producers need to cover this themselves by becoming as efficient as renewable technologies.

7. We encourage the fossil fuel fired power companies to develop geo-sequestration by RAISING CAPITAL FROM PRIVATE INVESTORS, but the fact that they are increasingly asking for government money shows that they think this is futile. By contrast, private investors are only too willing to invest in renewable energy generation and development is only being hampered by government regulation at the moment.
8. It only seems reasonable to demand that the cost of any future fossil fuel fired electricity developments factor in the cost of sequestration of CO<sub>2</sub> and that this is reflected in the wholesale price of the electricity provided by the producer.

Having said all this and if the majority of the technical problems are able to be remedied, then geo-sequestration should be proceeded with, as a matter of urgency. Delaying any longer than 5 years will rule it out as a tool for mitigation in the time frame that we have open to us.

We also note that not many places in the world have suitable geology to geo-sequester CO<sub>2</sub>. China, for instance, has just about zero ability to sequester carbon dioxide underground because of earth movements and unsuitable rock structures. So, even if the technology was perfected here, there would only be limited opportunities to sell this expertise to other countries.

- 3.2** Agree with the basic statements. We strongly encourage the alternative uses for brown coal, especially as fertilizer and as a source for hydrogen. Urea production for use as nitrogen fertilizer is seen as a strong contender for development, because of the demand by Australian farmers.

As long as coal is being burnt to produce electricity, some of the carbon dioxide can be diverted to algae production and this can be used to make synthetic petrol and diesel as well as being a base for plastics production. We see this as an area of growth as world oil supplies dwindle. Some say we are at peak oil now. However, we do not want this to be seen as a justification for prolonging the use of brown coal to produce electricity any longer than absolutely necessary.

If the present CPRS could be amended to include biochar as a means of sequestering CO<sub>2</sub>, then thought should be given to developing a bio-char industry based on the sludge from the Gippsland Water Factory. In any case we support any form of bio-char production.

If gas turbines are to be promoted, then combined cycle units, although more costly must be installed, as they are more efficient. We must not squander this valuable resource. Gas will run out long before coal will. Bear in mind also, that the direct use of gas for heating purposes is far more efficient than using gas to produce electricity, which is then used to do the same heating that could have been done by the gas directly.

- 4.1.1** Basically agree, but there could be potential for a fight over the CCAF funds with other coal regions.
- 4.1.2** Strongly support
- 4.1.3** Strongly support. A lot of work needs to be done to educate the local community on the whole sustainability issue. There is still much ignorance of why people should be worried about global warming and sceptics have clouded the issue quite successfully in the lead up to Copenhagen. So to convince people in the local area about following a particular course of action is a big challenge.
- 4.1.4** Agree
- 4.1.5** Strongly agree. But we would like to see the State Government change the website that promotes LV coal to the world, so that the uses should only be for non-combustive purposes. If it is not burnt, then

it won't produce CO<sub>2</sub>. It should be noted that "clean coal" is very contentious, but we encourage research none the less.

**4.1.6** Strongly agree

**4.1.7** Strongly agree with the push to diversify the economic base of the Valley and the emphasis on transition to a less coal dependent economy, including higher education.

**4.1.8** Strongly agree. We need contingency plans for the region if we are faced with a lot of closures.

Although, public transport wasn't considered in the draft report, we consider that anything that gets people out of their cars is a vital way of reducing greenhouse gases and meeting our CPRS obligations. Improved pedestrian and bike paths would also be an essential element to this.

On behalf of the LVSG, I would like to thank you for the opportunity of making a submission to this important undertaking and we sincerely hope that this report is helpful in the making of the decisions, which have to be made.